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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,427	04/15/2005	Toshiyuki Miyata	0020-5363PUS1	2681
2292	7590	01/15/2009	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				KIM, ALEXANDER D
ART UNIT		PAPER NUMBER		
1656				
NOTIFICATION DATE			DELIVERY MODE	
01/15/2009			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/531,427	MIYATA ET AL.	
	Examiner	Art Unit	
	ALEXANDER D. KIM	1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 September 2008.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 5,6,9,11-18 and 20-24 is/are pending in the application.
 4a) Of the above claim(s) 15 and 16 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 5,6,9,11-14,17,18 and 20-24 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input checked="" type="checkbox"/> Other: <u>Sequence Alignment</u> .

DETAILED ACTION

Application Status

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/18/2008 has been entered.

Applicants' amendment canceling Claims 1-4, 7-8, 10 and 19; amending Claims 5-6, 9 and 11 in the paper of 9/6/2006 is acknowledged. Claims 15-16 are withdrawn. Claims 5-6, 9, 11-18 and 20-24 are pending in the instant office action.

Claims 5-6, 9, 11-14, 17-18 and 20-24 will be examined herein.

Withdrawn-Objections to the Specification

2. The previous objection to the specification (page 32 line 10) for reciting an amino acid sequences fused to GST without appropriate SEQ ID NO is withdrawn by virtue of Applicants' argument (i.e., the correction has been made by amendment to the specification, filed on 1/10/2008 on page 6).

Withdrawn-Claim Objections

3. The previous objection to Claims 11-14 and 21-24 are withdrawn by virtue of Applicants' amendment.

Withdrawn-Claim Rejections - 35 USC § 112

4. The previous rejection of Claim 5 and 6 (Claim 9, 11-14, 17-18 and 20-24 dependent therefrom), under 35 U.S.C. 112, second paragraph, for reciting "a disintegrin-like and metalloprotease with thrombospondin type-1 motif, 13" is withdrawn by virtue of Applicants' argument (i.e., the recited term is well known in the art and it is not a limitation of claims) and in view of Exhibit I.

5. The previous rejection of Claims 12, 13 and 17 (Claims 22 and 23 dependent therefrom) under 35 U.S.C. 112, second paragraph, for reciting "the mutant substrate polypeptide for ADAMTS-13 according to claim 11", which has insufficient antecedent basis for this limitation in the claims, is withdrawn by virtue of Applicants' amendment of Claim 11 to be dependent on Claim 9 which recites "mutant substrate".

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

New Matter

6. Claims 5-6 and 17-18 are rejected under 35 U.S.C. 112, first paragraph, **new matter**, as failing to comply with the written description requirement. The claim(s) contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

7. It is also noted that Claims 5-6 are interpreted to require the polypeptide of 1587-1668 of SEQ ID NO: 1 or 1596-1668 SEQ ID NO: 1 with an optional tag sequence without any disruption in the middle of the said polypeptide(s). However, unlike the Claim 11, Claims 5-6 (Claim 17-18 dependent therefrom) reciting "An isolated substrate polypeptide and an optionally included tag sequence" (emphasis added). Since, the tag can be any protein or peptides according to a dependent Claim 12, the claimed isolated substrate polypeptide encompasses the polypeptide of the isolated substrate polypeptide of 1587-1668 or 1596-1668 of SEQ ID NO: 1 with a covalently attached tag sequence as well as said substrate polypeptide with a tag sequence that is not limited to covalently bound tag (which is not supported by the original disclosure). The applicant is advised to point out the support in the original disclosure or amend the instant claims

Applicants noted that the instant amendment in Claim 5-6 is supported by the disclosure on page 23, line 18 to page 27, line 15, which discloses many fusion polypeptide comprising 1587-1668 of SEQ ID NO: 1 or 1596-1668 SEQ ID NO: 1. Applicants' disclosure have been fully considered but are not deemed persuasive for the following reasons. The examiner acknowledges that instant disclosure teach a tag

sequence attached covalently to the N-terminal and/or C-terminal of 1587-1668 of SEQ ID NO: 1 or 1596-1668 SEQ ID NO: 1. However, the specification fails to provide support for non-covalently attached tags...

8. Claims 9, 11-14, 17 and 20-24 are rejected under 35 U.S.C. § 112, first paragraph, written description, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention..

The rejection was stated in the previous office action as it applied to previous Claims 9 and 20. In response to this rejection, applicants have cancelled Claims 1-4, 7-8, 10 and 19; amended Claims 5-6, 9 and 11; and traverse the rejection as it applies to the newly amended claims.

The previous office action noted that the instant application disclose polypeptide comprising 1587-1668 of SEQ ID NO: 1 (i.e., instant SEQ ID NO: 4) or 1596-1668 of SEQ ID NO: 1. The breadth of Claim 9 (Claims 11-14, 17 and 20-24 dependent therefrom) encompasses any amino acid sequence having 90% identity to 1587-1668 of SEQ ID NO: 1 (i.e., instant SEQ ID NO: 4) or 1596-1668 SEQ ID NO: 1 for ADAMTS-

13. The prior art and the instant specification do not describe sufficient species to represent the correlation between the structure of polypeptide (e.g., any polypeptide having 90% identity to any polypeptide or any variant thereof within 90% of 1587-1668 of SEQ ID NO: 1 (i.e., instant SEQ ID NO: 4) or 1596-1668 of SEQ ID NO: 1 and

function as a substrate for ADAMTS-13 protease which cleaves between 1605-1606 of SEQ ID NO: 1. The examiner acknowledges that the cleavage site is required, however, the instant specification lack of sufficient representative species within variants encompassed by the claims. Thus, the instant specification and the prior art cannot describe the structure of a very broad claimed genus and one skilled in the art would not be in possession of the full scope of claimed genus by the instant specification.

Applicants argue that the amended claim 9 is directed to a polypeptide which can be easily prepared and used by a skilled in the art in view of Kokame et al. (Exhibit 2, 2005) who describes a mutant substrate FRETS-VWF73; and Wu et al. (Exhibit 3, 2006) who disclose many mutant substrate such as Arg1659Ala, Glu1660Ala, Lys1668Ala, Glu1655Ala and combination thereof. Applicants also argue that a polypeptide of Claim 9 is described because the substrate polypeptide FRETS-VWF73 is also commercially available from Peptide Institute, Inc. and Peptide International Inc. (Exhibit 5, web pages of Peptide Institute, Inc. and PEPNET, Vol. 21, 2008). Applicants argue that said exhibits show the claimed mutant substrate polypeptide of the invention are actually prepared and successfully used as a substrate for ADAMTS-13; thus, the inventors was in possession of the claimed invention at the time of the application was filed.

Applicants' arguments have been fully considered but are not deemed persuasive for the following reasons. The applicants have noted that there is an error reciting "SEQ ID NO:4" instead of "SEQ ID NO:1" in the previous office action. While it

is true that the instant claims recite residues in terms of SEQ ID NO: 1, the residues 1587-1668 of SEQ ID NO: 1 is SEQ ID NO: 4; and the residues 1596-1668 of SEQ ID NO: 1 is SEQ ID NO: 5 (see instant specification page 34). The applicants' exhibits are acknowledged and considered, however, all exhibits are not described at the time of or prior to the instant priority date of 10/18/2002 (PCT/JP02/10816) wherein the instant application is 371 of said PCT application. Thus, exhibits can not be used to support the description of instant claims.

The instant specification teaches an isolated substrate polypeptide consisting 1587-1668 or 1596-1668 of SEQ ID NO: 1 with or without a tag in the N-terminal or the C-terminal which can be cleaved by ADAMTS-13 protease; with or without a tag in the N-terminal or the C-terminal of said substrate polypeptide. However, the breadth of Claim 9 (Claims 11-14, 17 and 20-24 dependent therefrom) encompasses a very widely varying mutant substrate polypeptide for ADAMTS-13 protease having at least 90% of the residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1; thus, encompassing any substitution, deletion, insertion and any variation within the residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1. To fully describe a genus of polypeptide, applicants must (1) fully describe at least one species of the claimed genus sufficient to represent said genus whereby a skilled artisan, in view of the prior art, could predict the structure of other species encompassed by the claimed genus and (2) identify the common characteristics of the claimed molecules, e.g., structure, physical and/or chemical characteristics, functional characteristics when coupled with a known or disclosed correlation between function and structure, or a combination of these.

However, the instant specification and prior art do not teach a single example of substrate polypeptide having any mutation(s) or variation(s) in the residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1 or 1596-1668 of SEQ ID NO: 1. The instant specification and prior art do not teach sufficient correlation between the structure of claimed polypeptide and the function as substrate for ADAMTS-13 protease. Instant specification and the prior art do not teach sufficient mutant species of polypeptide 1587-1668, 1596-1668 of SEQ ID NO: 1 or SEQ ID NO: 1 to be a substrate for ADAMTS-13. One skilled in the art would not know which structural feature(s) of 1587-1668 or 1596-1668 of SEQ ID NO: 1 is required to be a substrate for ADAMTS-13 protease other than the cleavage sites (i.e., the bond between Tyr1605-Met1606); thus, one skilled in the art would not be in possession of any variant polypeptide having at least 90% identity to 1587-1668 or 1596-1668 of SEQ ID NO: 1. Because the claims have very widely varying structural limitation which can not be correlate to a function of being a substrate of ADAMTS-13 protease by the instant disclosure, the one skilled in the art would not be in possession of full scope of the claimed genus polypeptide.

9. Claims 9, 11-14, 17 and 20-24 are rejected under 35 U.S.C. 112, first paragraph, scope of enablement, because the specification, while being enabling for an isolated substrate polypeptide consisting 1587-1668 or 1596-1668 of SEQ ID NO: 1 with or without a tag in the N-terminal or the C-terminal which can be cleaved by ADAMTS-13 protease; **does not** reasonably provide enablement for any isolated mutant substrate polypeptide for ADAMTS-13 protease having at least 90% of the residues 1587-1668 or

the residues 1596-1668 of SEQ ID NO: 1; wherein a mutation includes any substitution, deletion, insertion and any variation within the residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1 in Claims 9, 11-14, 17 and 20-24.

The rejection was stated in the previous office action as it applied to previous Claims 9 and 20. In response to this rejection, applicants have cancelled Claims 1-4, 7-8, 10 and 19; amended Claims 5-6, 9 and 11; and traverse the rejection as it applies to the newly amended claims.

Applicants argue that instant amendment of claim 9 and deleting the term "which retains the specificity for ADAMTS-13" so as to further define the claim overcomes the instant rejection.

Applicants' arguments have been fully considered but are not deemed persuasive for the following reasons. The applicants have noted that there is an error reciting "SEQ ID NO:4" instead of "SEQ ID NO:1" in the previous office action. While it is true that the instant claims recite residues in terms of SEQ ID NO: 1, the residues 1587-1668 of SEQ ID NO: 1 is SEQ ID NO: 4; and the residues 1596-1668 of SEQ ID NO: 1 is SEQ ID NO: 5 (see instant specification page 34). The Examiner acknowledge the instant amendment of Claim 9 which is narrower than the previous claim 9 by reciting the limitation of a non-mutated substrate consisting residues 1587-1668 or 1596-1668 of SEQ ID NO: 1. However, the claims continues to encompasses very broad mutant having 90% or more sequence identity to a substrate consisting residues 1587-1668 or 1596-1668 of SEQ ID NO: 1.

The instant specification teaches an isolated substrate polypeptide consisting 1587-1668 or 1596-1668 of SEQ ID NO: 1 with or without a tag in the N-terminal or the C-terminal which can be cleaved by ADAMTS-13 protease. However, the breadth of Claim 9 (Claims 11-14, 17 and 20-24 dependent therefrom) encompasses a very widely varying mutant substrate polypeptide for ADAMTS-13 protease having at least 90% of the residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1; thus, encompassing any substitution, deletion, insertion and any variation from the residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1. The instant specification teach residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1 which is substrate for ADAMTS-13 protease. However, applicants and prior art disclose no direction or guidance on how to make and use any other substrate polypeptide for ADAMTS-13 protease other than a fusion product of the residues 1587-1668 or the residues 1596-1668 of SEQ ID NO: 1 with additional tag at the N and/or the C terminal of the substrate polypeptide. The instant specification also teaches that the ADAMTS-13 cleaves the bond between Tyr1605-Met1606 of VWF (see instant specification page 27, line 14). In order to be a substrate polypeptide for ADAMTS-13, the polypeptide has to have the cleavage site, however, the variation(s) encompassed by the broadly claimed polypeptide and maintaining to be a substrate for ADAMTS-13 is unpredictable because the instant specification and the prior art do not teach any direction or any guidance how to make changes as described in the breadth of scope and remain to be substrate polypeptide for ADAMTS-13 protease. The unpredictability of claimed polypeptide as substrate for ADAMTS-13 is also evidenced by Wu et al. (PNAS, 2006, Vol. 103, pages

18470-18474, as cited in the Exhibit 3 filed by applicants on 8/11/2008) who teaches that "It was unusual that an extended peptide sequence consisting of 10 before and 63 amino acids after the scissile bond, is necessary for recognition and cleavages by ADAMTS-13" (see top right column, page 18470). Thus, the specification and prior art fail to describe how to make and use the full scope of claimed genus sufficiently. Therefore, it is unpredictable for very widely varying polypeptide to be a substrate polypeptide for ADAMTS-13 protease encompassed by the instant claims. Thus, it is unpredictable for one skilled in the art to make and use the full scope of claimed genus polypeptide as described above in the breadth of claims. The said unpredictability makes the relative skill required in the art very high. For all of the above reason, it would require undue experimentation necessary to make and use claimed genus substrate polypeptide for ADAMTS-13.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 5, 6, 9, 11-14, 17-18 and 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Garfinkel et al. (US Patent 5,849,536, Dec. 15, 1998) as evidenced by Wu et al. (PNAS, 2006, Vol. 103, pages 18470-18474).

Claims 5, 6 (Claims 11-14, 17-18 and 21-24 dependent therefrom) are drawn to an isolated polypeptide and an optionally included tag sequence which begins at amino acid 1578 to 1668 (or 1596-1668) of SEQ ID NO: 1 for a disintegrin-like and metalloprotease with thrombospondin type-1 motif. Claim 9 (Claims 11-14, 17 and 20-24 dependent therefrom) is drawn to an isolated substrate polypeptide having at least 90% or higher of Claims 5 or 6; wherein the tag can be proteins, peptides.

Garfinkel et al. teach the vWF GPIb binding domain polypeptide having residues disclosed as SEQ ID NO: 2 which comprises polypeptide 100% identical to instant polypeptide residues 1587-1668 (or 1596-1668) of SEQ ID NO: 1 (see Sequence Alignment in the attachment); wherein the polypeptide SEQ ID NO: 2 is expressed by pVWF-VCL according to the Fig. 13 description. The Example 4 in §19, lines 40-41, teaches isolation of the polypeptide encoded by pVWF-VCL by "improved methods a purer and more active polypeptide is produced". The extra amino acids of Garfinkel et al. outside the 1587-1668 (or 1596-1668) of instant SEQ ID NO: 1 at the N-terminal and the C-terminal meets the limitation of having a tag sequence attached at the N-terminal and C-terminal; and the polypeptide of Garfinkel et al. meets the limitations of Claims 5-6, 9 and 11-12. The polypeptide of Garfinkel et al. has Cys at position 4 (see § 43-44) which can be used to attach to a maleimide bound resin which forms covalent bond with Cys; thus, meeting the limitation of Claim 13. The polypeptide of Garfinkel et al. was further purified by ion exchange chromatography (see §, line54-55), which meets the limitation of Claims 13-14. The isolated polypeptide of SEQ ID NO: 2 can be used for ADAMTS-13 protease activity in vitro using the ADAMTS-13 isolated from a patient,

which meets the limitation of claim 17. The polypeptide of Garfinkel et al. was lyophilized (see §21, lines 37-44) and container holding the lyophilized polypeptide meets the limitation of a kit, which meets the limitations of Claims 18 and 20-24, for in vitro testing as shown by the biological testing shown in Example 5 in the §22 for ADAMTS-13 since the polypeptide comprises the cleavage site for ADAMTS-13 (i.e., Tyr1605-Met1606) and other residues such as 10 amino acids before and 63 amino acids after the scissile bond, which "is necessary for recognition and cleavage by ADAMTS-13" (see top right column, page 18470 of Wu et al.)

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER D. KIM whose telephone number is (571)272-5266. The examiner can normally be reached on 11AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on (571) 272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander D Kim/
Examiner, Art Unit 1656

/Rebecca E. Prouty/
Primary Examiner,
Art Unit 1652

RESULT 1
US-08-347-594A-2
; Sequence 2, Application US/08347594A
; Patent No. 5849536
; GENERAL INFORMATION:
; APPLICANT: Garfinkel, Leonard
; APPLICANT: Richter, Tamar
; TITLE OF INVENTION: CLONING AND PRODUCTION OF HUMAN VON
; TITLE OF INVENTION: WILLEBRAND FACTOR GPIb BINDING DOMAIN POLYPEPTIDES
AND
; TITLE OF INVENTION: METHODS OF USING SAME
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John P. White
; STREET: 1185 Avenue of the Americas
; CITY: New York
; STATE: New York
; COUNTRY: USA
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/347,594A
; FILING DATE: No. 5849536ember 30, 1994
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: White, John P.
; REGISTRATION NUMBER: 28,678
; REFERENCE/DOCKET NUMBER: 36537-B2
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; TELEX:
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 2050 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-347-594A-2

Query Match 100.0%; Score 428; DB 1; Length 2050;
Best Local Similarity 100.0%; Pred. No. 7.6e-44;
Matches 82; Conservative 0; Mismatches 0; Indels 0; Gaps
0;

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QY 1 DHSFLVSGQDREQAPNLVYMTGNPASDEIKRLPGDIQVVPIVGVGPANVQELERIGWPN 60

Db 824 DHSFLVSQGDREQAPNLVYMTGNPASDEIKRLPGDIQVVP1GVGPANVQELE RIGWPN

883

Qy 61 APILIQDFETLPREAPDLVLQR 82

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Db 884 APILIQDFETLPREAPDLVLQR 905